TEAM 11: Lazer-Ops

Matt Block
Eric Bouwkamp
Kristen Herder
Mark Willard
Outline

- Project Introduction
- Deliverable
- Design Decisions
- Feasibility
- Design Norms
- Obstacles
- Future Plans
- Questions
Home-based laser tag system

4 main sub-systems:
- Laser Gun
- Sensor Vest
- Central Hub
- Mobile Application
Deliverables

- A working Prototype
- 2 Laser Guns & Vests
- Central Hub
- Mobile Application
- PPFS Report
- Final Design Report
Design Decisions

- Central Hub
- Mobile Application
- Sensor Vest
- Laser Gun

adafruit.com/images/medium/1344_MED.jpg
### Feasibility

<table>
<thead>
<tr>
<th>Component</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser Gun</td>
<td>$109</td>
</tr>
<tr>
<td>Vest</td>
<td>$124</td>
</tr>
<tr>
<td>Hub</td>
<td>$130</td>
</tr>
<tr>
<td>Application</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Budget:** $361

**Requested Budget:** $400
Estimated Production Cost

100,000 units/year at $64.99 per unit

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Annual Fixed Costs:</td>
<td>$2,152,600</td>
</tr>
<tr>
<td>Total Annual Variable Cost:</td>
<td>$2,007,858</td>
</tr>
<tr>
<td>Total Annual Costs:</td>
<td>$4,160,458</td>
</tr>
</tbody>
</table>

Retail Markup: 40%

Total Profit (First year): $674,359
Design Norms

Transparency

Trust

Care
Obstacles

- Wifi Communication
- Managing Game Data
- Product Testing
Future Plans

- Working Laser Gun Prototype
- Working Vest Prototype
- TCP/IP Communication
- Plastic Electrical Housings
Questions?